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APRIL 1, 1973 - JUNE 30, 1973

R. J. Rummel

Hawaii University

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THE DIMENSIONALITY OF NATIONS PROJECT  
Department of Political Science  
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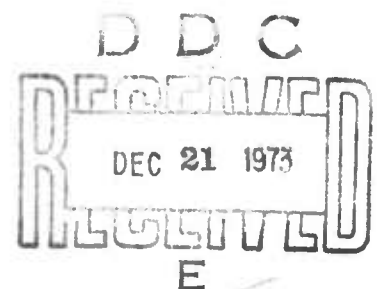
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ABSTRACT

This is the report on DON's activities for the period April 1, 1973 to June 30, 1973. During this quarter a data transformation program was finished and all attribute data for nations, 1950-1965 were transformed. Moreover, a component factor analysis was carried out on these transformed data. The resulting components for nation dyadic behavior and attribute distances were then linked together through canonical analysis.

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INTRODUCTION

This twenty-first quarterly report is divided into seven sections. The first describes the analyses initiated and completed during the quarter; the results of special significance are highlighted. Methodological problems faced during the analyses along with any computer programs that have been written or revised during the quarter are discussed in the second section. In this and the previous section, technical terms and discussions are avoided where possible. The third section describes the data collections begun and completed during the quarter. Current personnel, personnel commitments made and consultation are noted in the fourth section. Project activities are discussed in the fifth section and the sixth section covers project publications, research reports, and monographs in preparation and completed. The final section delineates changes in the DON budget, status of subcontracts, and expenditures to date.

I. ANALYSES

The major analyses completed or initiated during this quarter are as follows:

1. Data Transformation. Because we completed our data transformation program we were able to transform all appropriate data over the years 1950 to 1965. By appropriate is meant that these are the data to which we can apply the principle of diminishing returns with increasing value. By theory it is assumed that as the distance between one nation and others increase on such variables as GNP per capita, telephones per capita, population, or area the less the absolute distance between that country and the others are perceived. At the higher end of economic development for example the difference between the United Kingdom, the United States, and the Soviet Union is not perceived as much as the fact that there's a great distance between these three countries and the very underdeveloped nation.

2. Component Analysis. A component factor analysis was carried out on the A- and B-space data (1950 to 1965) using the transformed data indicated in the above. This was a Super-P analysis, which enabled us to untangle the cross-time variance and the cross-dyadic variance in our data matrix. The results of this component analysis were very similar to those carried out on the untransformed data, except that the power dimension which had broken into two parts in the previous component analysis now is more clearly seen as a unitary power dimension once the data has been transformed.

3. Canonical Analysis. The major purpose of all the data collection analyses is to determine the degree to which behavior is a consequence of attribute distances and to assess our ability to forecast changes in behavior as the result of changes in these distances. Accordingly, a canonical regression analysis was carried out on the above results. The aim was to measure precisely how dependent behavior is on attribute distances when transformed data are used. These regression analyses were done on fourteen different samples, each having a different actor. These actors were Brazil, Burma, China, Cuba, Egypt, India, Indonesia, Israel, Jordan, Netherlands, Poland, Soviet Union, United Kingdom, and the United States. The results of these regressions were uniform in that approximately twenty-five to thirty-five percent of the variation and behavior was accounted for by attribute distances. Moreover, there appeared in the case of each dyad a relatively highly dependent behavior for which the amount of variance accounted was over ninety percent. In general, economic development, power, and political distances do predict variation in behavior, and conflict itself is best predicted by the power parity between nations.

## II. METHODOLOGY AND COMPUTER PROGRAMS

A new logarithm transformation computer program was developed for the Project. It is now operational on the computer and was used to transform DON data for the period 1950 to 1965.

Our MODULAR FACTOR ANALYSIS PACKAGE has been modified to include image factor analysis as an option. It is anticipated therefore that image factor analysis will be carried out during the next quarter.

## III. DATA

As reported in the previous quarterly report all data for the global system of nations that we are analyzing for the period 1950 to 1965 has been collected, checked, punched on computer cards, and prepared for distribution. We are now in the process of completing our data collection for the Asian region. We anticipate that the data collection will be completed to computer card punching by the end of summer.

## IV. PERSONNEL

### 4.1 Project Director

During this quarter the principal investigator completed the first draft of his manuscript The Dynamic Psychological Field: A Psycho-Philosophical Preface to the Dynamics of Violence and War. This is the first in a series of volumes which will integrate the output of the ten years of research done by DON and relate this research specifically to the problem of war and deterrence.

The manuscript consists of seven chapters which deal primarily with the philosophical and psychological bases of the theory that DON has been utilizing in trying to understand nations. It is anticipated that in rewriting this manuscript these chapters will be subdivided and the final book will be about 400 pages long.

The principal investigator attended in June a conference held at Ojai, California on the Successes and Failures of a Science of International Relations. The conference was organized by Professor James Rosenau and included virtually all the principal investigators of the major quantitative international relations projects in the United States, including Professors Harold Guetzkow, Bruce Russett, Robert North, J. David Singer, Ole Holsti, and Hayward Alker. A major emphasis of the conference was on the degree of accumulation of findings on nations that are reliable and useful and that have developed over the last ten or fifteen years. One of the important things to emerge from the conference was the degree to which DON Project had accounted for the amount of accumulative scientific findings on nations.

#### 4.2 Assistant Director

Dr. Sang-Woo Rhee, Assistant Director of DON, had to return to South Korea during the quarter. His visa, which he first received as a student at the East-West Center in 1968, expired in April. Due to the nature of the visa Dr. Rhee would ordinarily have to wait two years before he could return to the United States. However, discussions with Immigration are underway to determine if Dr. Rhee can return to the Project before this time. Dr. Rhee's expertise on Asia and his familiarity with the data on this region are essential to the Project. If Dr. Rhee is unable to return to the Project within a reasonable time then some kind of consulting arrangement will be undertaken to enable him to work with our data while in South Korea.

#### 4.3 Research Assistants

During this quarter, three research assistants continued to work for the project: Chang-Yoon Choi, John McIlroy, and George Omen. Mr. Choi has continued to work on his dissertation analyzing the dyadic behavior of the United States and the Soviet Union for the periods 1960 and 1965. Mr. McIlroy is preparing his dissertation prospectus which will be analysis of regional cooperation and its relationship to domestic forces. Mr. Omen has continued to work with the data of the project and to carry out analyses.

Mr. Peter Sybincky, a graduate student majoring in international relations is working on a volunteer basis for the project as a way of gaining an understanding of our methodology. He was involved in numerous DON analyses during the quarter.

In addition to the above, a number of student helpers have been employed on the project to aid in collecting Asian data and checking its reliability back against the sources.

#### V. DON ACTIVITIES

During this quarter, a number of DON staff meetings were held to discuss the chapters of the manuscript the principal investigator is writing on the foundations of field theory. It is anticipated that during the next quarter the staff meetings will particularly focus on the major interpretation of the empirical findings of the project.

#### VI. PUBLICATIONS AND REPORTS

Research Report No. 67 Rhee, San(-Woo, George Omen, R. J. Rummel, "Behavior of Nation-Dyads: Data and Codes 1950-1965."

R. J. Rummel, "Roots of Faith," a seventy-page paper prepared for presentation to the Conference on the Successes and Failures of a Science of International Relations. The paper comprises an intellectual research autobiography of the principal investigator of the project particularly as it relates to the development of the project's research design and perspective.

#### VII. BUDGET

##### 7.1 Fiscal Status

Project expenditures are currently in line with the total available to the Project beginning on September 1, 1972. We anticipate fully expending these funds by the end of August, 1973.

##### 7.1.1 Amount Funded

The maximum amount available for reimbursement is \$871,846.00.

##### 7.1.2 Estimate Expenditures and Commitments

Total expenditures to date (09-01-67 to 06-30-73): \$840,456.84

Total estimated expenditures (09-01-67 through  
08-31-73) \$871,846.00

##### 7.1.3 Estimate Funds Required: None